

Claims

1. Method to retrieve RDS information by filtering and transforming an incoming multiplex signal $m(t)$ into an amplitude demodulated RDS signal $m_{rds}(t)$, **characterized in that** an amplitude modulated RDS signal $m_c(t)$ is derived on basis of an intermediate signal $m_a(t)$ obtained during an extraction of a stereo-difference signal $m_d(t)$ from the incoming multiplex signal $m(t)$.
2. Method according to claim 1, **characterized in that** the intermediate signal $m_a(t)$ is obtained by multiplying the multiplex signal $m(t)$ with the second harmonic of a pilot carrier $(2\sin(2\omega_{pil}t))$.
3. Method according to claim 1 ~~or 2~~, **characterized in that** the amplitude modulated RDS signal $m_c(t)$ is derived by subtracting a stereo-sum signal $m_s(t)$ multiplied by the second harmonic of a pilot carrier $(2\sin(2\omega_{pil}t))$ from the intermediate signal $m_a(t)$.
4. Method according to claim 1 ~~or 2~~, **characterized in that** the amplitude modulated RDS signal $m_c(t)$ is set to be the intermediate signal $m_a(t)$.
5. Method according to ~~any one of claims 1 to 4~~ ^{claim 1}, **characterized by:**
 - amplitude demodulation of the amplitude modulated RDS signal $m_c(t)$;
 - and
 - decoding the amplitude demodulated RDS signal $m_{rds}(t)$.
6. Method according to claim 5, **characterized in that** the amplitude demodulation of the amplitude modulated RDS signal $m_c(t)$ is performed by a coherent amplitude demodulation with a carrier which is recovered by a CO-STAS-loop from the amplitude modulated RDS signal.
7. Method according to claim 5, **characterized in that** the amplitude demodulation of the amplitude modulated RDS signal $m_c(t)$ into a RDS base-band signal $m_{cl}(t)$ is performed by a complex demodulation.
8. Method according to claim 7, **characterized in that** the complex carrier needed for the complex demodulation is output from a digital PLL-circuit (17)

00601337-101800
a
a
a

9. Method according to claim 7 ~~or 8~~, **characterized in that** the carrier of the RDS signal ($m_{\text{rds}}(t)$) is recovered with a COSTAS-loop locking to the RDS baseband signal ($m_{\text{cL}}(t)$).

5 10. Method according to ~~any one of claims 1 to 9~~, ^{claim 1} characterized in that the intermediate signal ($m_a(t)$) is obtained on basis of a sampling rate decimated stereo-difference signal ($m_d(t)$).

10 11. Method according to ~~anyone of claims 1 to 10~~, ^{claim 1} **characterized by** a sampling rate decimation to obtain carriers for the respective demodulations.

12. Method according to ~~anyone of claims 1 to 11~~, **characterized by** a sampling rate decimation of the RDS baseband signal ($m_{CL}(t)$).

13. RDS demodulator, ~~characterized in that~~ ^{claim 1} it is adapted to operate according to the method defined in ~~anyone of claims 1 to 12.~~

20

25

30

35